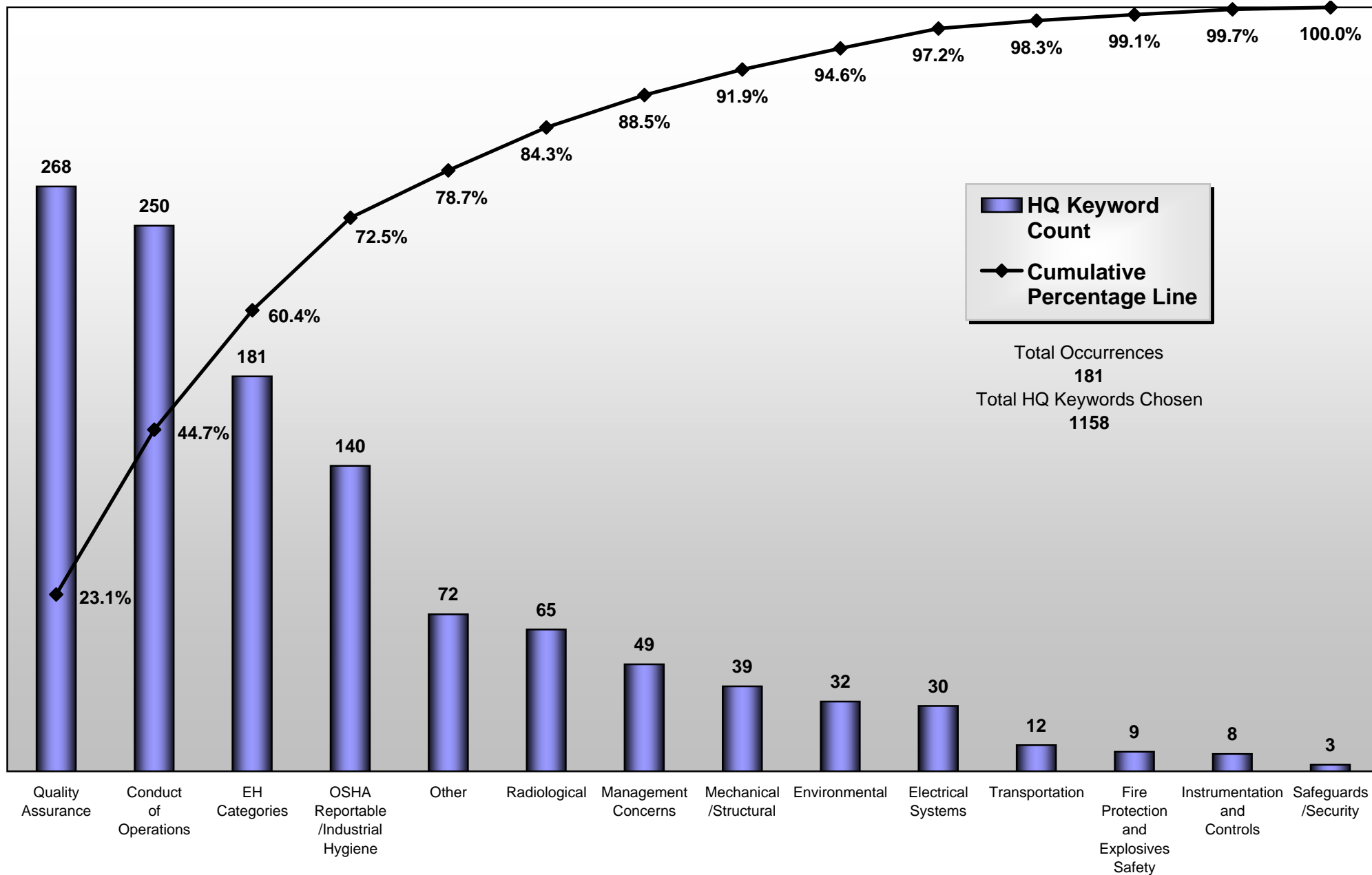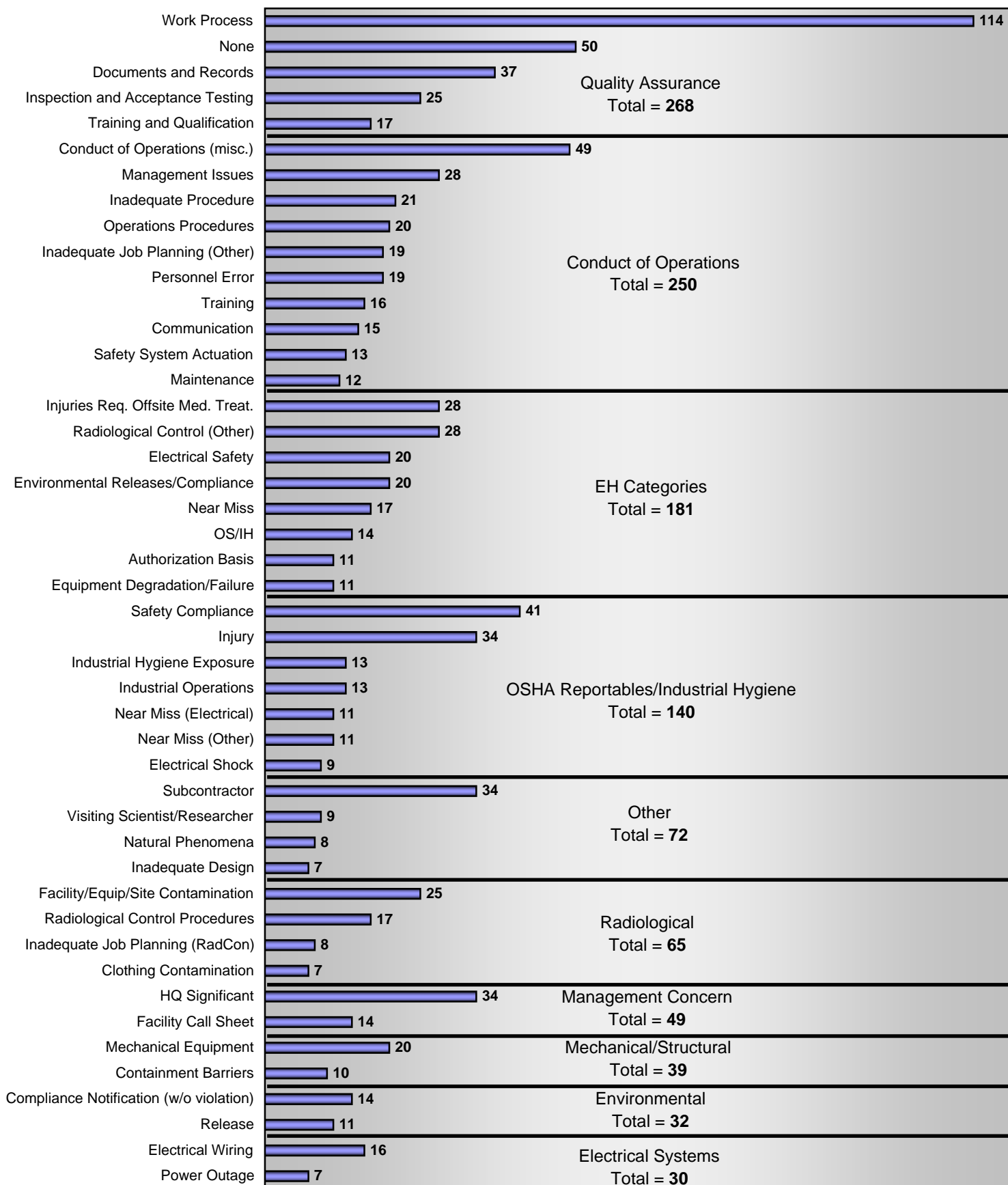## DOE-Science Occurrences in ORPS from 9/1/06 - 8/31/07
Binned by frequency of HQ Keyword descriptors chosen (most to least frequent)
Data Source: ORPS (Extracted 9/4/07)

Legend:
- HQ Keyword Count
- Cumulative Percentage Line

Total Occurrences
181
Total HQ Keywords Chosen
1158

Bar values:
- Quality Assurance: 268
- Conduct of Operations: 250
- EH Categories: 181
- OSHA Reportable /Industrial Hygiene: 140
- Other: 72
- Radiological: 65
- Management Concerns: 49
- Mechanical /Structural: 39
- Environmental: 32
- Electrical Systems: 30
- Transportation: 12
- Fire Protection and Explosives Safety: 9
- Instrumentation and Controls: 8
- Safeguards /Security: 3

Cumulative Percentage values:
23.1%, 44.7%, 60.4%, 72.5%, 78.7%, 84.3%, 88.5%, 91.9%, 94.6%, 97.2%, 98.3%, 99.1%, 99.7%, 100.0%
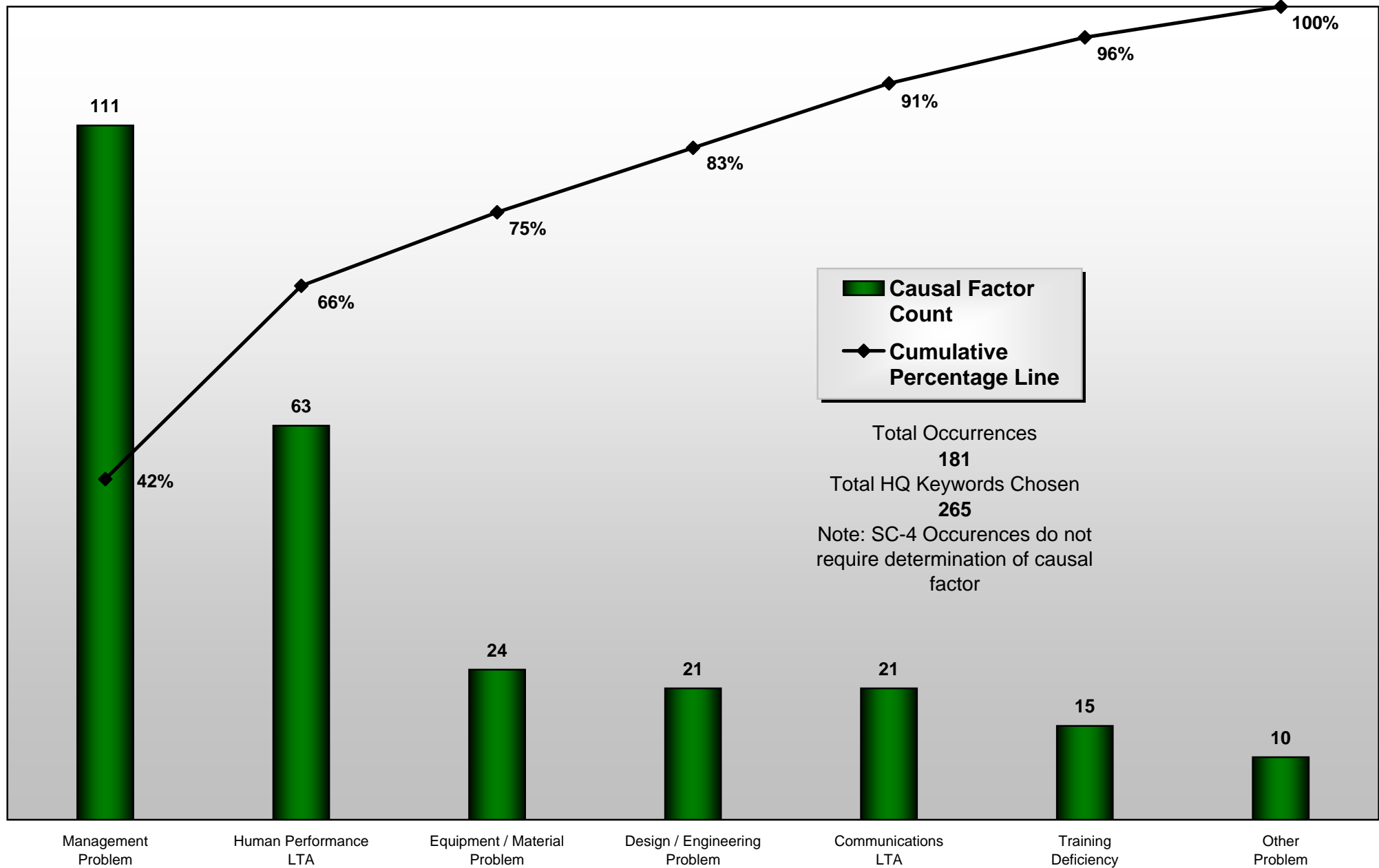
DOE-Science Occurrences in ORPS from 9/1/06 - 8/31/07
Binned by HQ Keywords chosen most frequent (Levels 1 and 2)

Data Source: ORPS (Extracted 9/4/07)

Keyword	Value
Work Process	114
None	50
Documents and Records	37
Inspection and Acceptance Testing	25
Training and Qualification	17

Quality Assurance
Total = 268

Keyword	Value
Conduct of Operations (misc.)	49
Management Issues	28
Inadequate Procedure	21
Operations Procedures	20
Inadequate Job Planning (Other)	19
Personnel Error	19
Training	16
Communication	15
Safety System Actuation	13
Maintenance	12

Conduct of Operations
Total = 250

Keyword	Value
Injuries Req. Offsite Med. Treat.	28
Radiological Control (Other)	28
Electrical Safety	20
Environmental Releases/Compliance	20
Near Miss	17
OS/IH	14
Authorization Basis	11
Equipment Degradation/Failure	11

EH Categories
Total = 181

Keyword	Value
Safety Compliance	41
Injury	34
Industrial Hygiene Exposure	13
Industrial Operations	13
Near Miss (Electrical)	11
Near Miss (Other)	11
Electrical Shock	9

OSHA Reportables/Industrial Hygiene
Total = 140

Keyword	Value
Subcontractor	34
Visiting Scientist/Researcher	9
Natural Phenomena	8
Inadequate Design	7

Other
Total = 72

Keyword	Value
Facility/Equip/Site Contamination	25
Radiological Control Procedures	17
Inadequate Job Planning (RadCon)	8
Clothing Contamination	7

Radiological
Total = 65

Keyword	Value
HQ Significant	34
Facility Call Sheet	14

Management Concern
Total = 49

Keyword	Value
Mechanical Equipment	20
Containment Barriers	10

Mechanical/Structural
Total = 39

Keyword	Value
Compliance Notification (w/o violation)	14
Release	11

Environmental
Total = 32

Keyword	Value
Electrical Wiring	16
Power Outage	7

Electrical Systems
Total = 30

Trending Charts for Evaluating Occurrences by HQ Keyword and by Casual Factors (Example)

DOE-Science Occurrences in ORPS from 9/1/06 - 8/31/07
Binned by frequency of Causal Factors chosen (most to least frequent)

Data Source: ORPS (Extracted 9/4/07)

Legend:
- **Causal Factor Count**
- **Cumulative Percentage Line**

Total Occurrences
181
Total HQ Keywords Chosen
265
Note: SC-4 Occurences do not require determination of causal factor

Data points:
- Management Problem: 111, 42%
- Human Performance LTA: 63, 66%
- Equipment / Material Problem: 24, 75%
- Design / Engineering Problem: 21, 83%
- Communications LTA: 21, 91%
- Training Deficiency: 15, 96%
- Other Problem: 10, 100%

DOE-Science Occurrences in ORPS from 9/1/06 - 8/31/07
Binned by Causal Factors chosen (Levels 1 and 2)

Data Source: ORPS (Extracted 9/4/07)

Causal Factor	Count
Management Methods LTA	44
Work Organization & Planning LTA	35
Supervisory Methods LTA	13
Change Management LTA	10
Resource Management LTA	9

Management Problem
Total = 111

Causal Factor	Count
Skill Based Error	28
Knowledge Based Error	19
Rule Based Error	11
Work PracticesLTA	5

Human Performance LTA
Total = 63

Causal Factor	Count
Defective, Failed or Contaminated	14
Periodic/Corrective Maintenance LTA	6
Material Control LTA	2
Calibration for Instruments LTA	1
Inspection/Testing LTA	1

Equipment / Material Problem
Total = 24

Causal Factor	Count
Operability of Design/Environment LTA	9
Design/Installation Verification LTA	5
Design Output LTA	4
Design Input LTA	3

Design / Engineering Problem
Total = 21

Causal Factor	Count
Verbal Communication LTA	10
Written Communication Content LTA	9
Written Communications Method of Presentation LTA	1
Written Communication not used	1

Communications LTA
Total = 21

Causal Factor	Count
No Training Provided	11
Training Methods LTA	3
Training Material LTA	1

Training Deficiency
Total = 15

Causal Factor	Count
External Phenomena	7
Radiological / Hazardous Material Problem	3

Other Problem
Total = 10